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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,179	11/28/2000	Wenhua Lin	LIGHT1320	7760

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EXAMINER

CURS, NATHAN M

ART UNIT PAPER NUMBER

2633

DATE MAILED: 11/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/724,179	Applicant(s) LIN, WENHUA	
	Examiner Nathan Curs	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Prosecution Reopened

1. In view of the appeal brief filed on 15 December 2004, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 38-46 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lumish et al. ("Lumish") (US Patent No. 6466341) in view of Lee (US Patent No. 5917626).

Regarding claim 38, Lumish discloses an add/drop apparatus, comprising: a channel selector configured to receive a plurality of channels that include a first channel and a second channel, the channel selector being configured to transmit the first channel to an add/drop node and the second channel to an output node when in a first channel mode (fig. 2 and col. 5, lines 25-43); and a switch configured to receive a plurality of optical channels and to direct the optical channels such that the optical channels are received by the channel selector or such that the optical channels bypass the channel selector and are received at the output node (figs. 1a and 1b and col. 4, line 45 to col. 6, line 24), an optical path along which the channel travels from the switch to the channel selector being exclusive of an optical path from the channel selector to the add/drop node and also exclusive of an optical path from the channel selector to the output node (figs. 1a and 1b). Lumish discloses WDM filtering and that the filters of the channel selector are thin-film filters, but does not disclose the channel selector being further configured to transmit the second channel to the add/drop node and the first channel to the output node when in a second channel mode. Lee discloses tunable thin-film filters for WDM filtering (figs. 4a and 4c and col. 5, line 51 to col. 6, line 18 and col. 6, lines 27-29). It would have been obvious to one of ordinary skill in the art at the time of the invention to use one or more of the tunable thin-film filters of Lee in place of one or more of the fixed thin-film filters of Lumish, in order to provide the benefit of tunable add/drop for one or more of the WDM channels.

Regarding claim 39, the combination of Lumish and Lee discloses the apparatus of claim 38, wherein the channel selector is configured such that a bandwidth of a channel directed to the add/drop node can be tuned (Lee: figs. 4a and 4c and col. 5, line 51 to col. 6, line 18 and col. 6, lines 27-29).

Regarding claim 40, the combination of Lumish and Lee discloses the apparatus of claim 39, wherein the channel selector includes a bandwidth tunable filter module comprising: a first optical filter element configured to divert a channel from a beam that includes a plurality of the channels, the first portion having a first bandwidth, and a second optical filter element configured to divert the channel from the beam such that the channel has a second bandwidth, that second bandwidth being different from the first bandwidth (Lumish: fig. 2 and col. 5, lines 25-43).

Regarding claim 41, the combination of Lumish and Lee discloses the apparatus of claim 40. Lumish and Lee disclose moving a filter element when tuning (Lee: figs. 4a and 4c, elements r1 and r2), but do not individually disclose that the first optical filter element is arranged to move in conjunction with the second filter element. However, it would have been obvious to one of ordinary skill in the art at the time of the invention that once multiple channel selector filters in Lumish are made tunable in the combination, bypassing the filters during the tuning time would be mandatory to prevent data errors that would easily occur if channels were added or dropped during the tuning time, and that tuning plural filter elements would require that the elements be tuned (and thus moved) at the same time – while the filters are momentarily bypassed.

Regarding claim 42, the combination of Lumish and Lee discloses the apparatus of claim 40, further comprising: an adjustment mechanism configured to position the first and the second optical filter element relative to the beam in accordance with a desired optical bandwidth of a diverted signal (Lee: figs. 4a and 4c and col. 5, line 51 to col. 6, line 18 and col. 6, lines 27-29).

Regarding claim 43, the combination of Lumish and Lee discloses the apparatus of claim 42, wherein the adjustment mechanism is further configured to position the first and the second optical filter element relative to the light signal such that the channel selector transmits the

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desired channel to the add/drop node (Lee: figs. 4a and 4c and col. 5, line 51 to col. 6, line 18 and col. 6, lines 27-29).

Regarding claim 44, the combination of Lumish and Lee discloses the apparatus of claim 38, further comprising: a controller configured to operate the switch such that channels are directed to the output port when bypassing the filter (Lumish: figs. 1a and 1b and col. 4, line 45 to col. 6, line 24). Lumish and Lee do not individually disclose bypassing the filter when changing the apparatus between the first channel mode and the second channel mode; however, it would have been obvious to one of ordinary skill in the art at the time of the invention that once a channel selector filter in Lumish is made tunable in the combination, bypassing the filter during the tuning time would be mandatory to prevent data errors that would easily occur if channels were added or dropped during the tuning time.

Regarding claim 45, the combination of Lumish and Lee discloses the apparatus of claim 38, wherein: the channel selector is configured such that a first alternate optical channel traveling from the add/drop node to the channel selector travels from the channel selector to the output node when the channel selector is in the first channel mode (Lumish: fig. 1a, element $\lambda_{3\prime}$).

Regarding claim 46, the combination of Lumish and Lee discloses the apparatus of claim 45, wherein: the channel selector is configured such that when in the first channel mode, the first alternate channel is directed to the output node with a different bandwidth than the first channel directed to the add/drop node (Lumish: fig. 2 and col. 5, lines 25-43, where the Lumish disclosure reads on an add wavelength being different than a drop wavelength).

Regarding claim 50, the combination of Lumish and Lee discloses the apparatus of claim 38, wherein the channel selector is configured to transmit a plurality of channels to the add/drop node when in the first channel mode (fig. 2 and col. 5, lines 25-43).

4. Claims 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lumish et al. ("Lumish") (US Patent No. 6466341) in view of Lee (US Patent No. 5917626) as applied to claims 38-46 and 50 above, and further in view of Hamel et al. ("Hamel") (US Patent No. 5771112).

Regarding claim 47, the combination of Lumish and Lee discloses the apparatus of claim 38, and discloses add/drop for more than one channel, but does not disclose a second channel selector configured to receive the plurality of channels from the switch, the second channel selector configured to transmit one or more of the channels to the add/drop node. Hamel discloses an add-drop node with a multiple switched channel selectors configuration (fig. 1 and col. 3, line 36 to col. 4, line 13). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the multiple switched channel selectors configuration of Hamel in place of the one channel selector configuration of the combination of Lumish and Lee, to provide the benefit of selecting between different channel selection options provided by different channel selectors.

Regarding claim 48, the combination of Lumish, Lee and Hamel discloses the apparatus of claim 47, wherein one or more of the second channel selectors is a fixed channel selector (Hamel: fig. 1 and col. 3, line 36 to col. 4, line 13, where in the combination any channel selector can be tunable or fixed).

Regarding claim 49, the combination of Lumish, Lee and Hamel discloses the apparatus of claim 47, further comprising: an optical channel coupler configured to receive channels from the channel selector and from the one or more second channel selectors and to direct the received channels to the output port (Hamel: fig. 1, element C2, as applicable in the combination).

Conclusion

5. Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (571) 272-3028. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (800) 786-9199.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pairedirect.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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